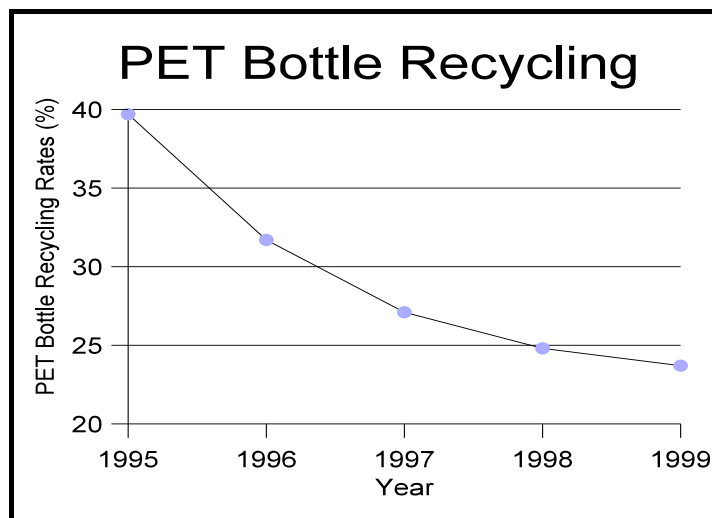


PET: New Opportunities to Improve Recycling and Increase Markets for the Blue Box
Discussion Paper
2001 JTR Recycling Market Development Roundtable

Introduction:

PET container recycling rates have been declining over the last few years and states, municipalities, trade associations and non-profits are recommending different solutions. This paper attempts to frame the issue, to encourage thought and ideas, and reflects discussion that occurred at the Jobs Through Recycling Market Development Roundtable.

Current Situation:



**PET Bottle Recycling Rate
1995 - 1999**

Year	Total US RPET (MM lbs.)	Bottles on US Shelves (MM lbs.)	Gross Recycling Rate
1995	775	1,950	39.7 %
1996	697	2,198	31.7 %
1997	691	2,551	27.1 %
1998	745	3,006	24.8 %
1999	771	3,250	23.7 %

Source: National Association for PET Container Resources , 2000

PET bottles are recycled at very high rates relative to other PET products such as carpets

and other durables, but in recent years, the recycling rates have begun to decline as more products have switched to PET, and while the total amount of PET that is recycled has increased each year, the ratio of recycling to sales has declined.

Plastic packaging has increased dramatically over the last forty years, and significant growth is anticipated. In 1960 only 390,000 tons of plastic was generated in municipal solid waste, while in 1999 the number has increased to 24.2 million tons, or 10.5 percent of all MSW generated. Of the 24.2 million tons generated in 1999, only 1.4 millions tons, or 5.6 percent were recovered¹. PET and HDPE containers were recovered at much higher rates though—PET soda bottles were recovered at a rate of 40 percent in 1999 and HDPE milk and water bottles were recovered at about 31.9 percent. This said, the trend in PET container recycling is disturbing, as PET containers are amongst the easiest to recycle of all plastic containers and PET is a very valuable resin, typically worth over \$200/ton as baled materials collected from the curbside, and up to \$1000/ton as recycled (and processed) PET pellets.

The American Plastics Council (APC), the National Association for PET Container Resources (NAPCOR), and others point to the large need for supply, but have yet to come up with a working strategy that would lead to any significant increases. Many municipalities could potentially increase the efficiency of their recycling and collection programs, but must struggle with limited budgets and continuing difficulties with cyclical markets. To further complicate the situation, it is highly likely that many new products will be switching to PET containers over the next few years, as the PET resin industry has overcome technological barriers to hot-filling (for juices, pickles etc.) and have also developed new colors and technology for barrier layers that now enable PET to enter the beer and fruit drink market. These new applications have a combined potential of generating billions of pounds of new PET bottles, which could lead to even lower recycling rates if concerted actions are not taken (barrier layers could also create additional complications in producing a recycled PET pellet capable of meeting the requirements of high end markets). Note that barrier bottles have yet to enter the market in any significant quantity, currently limited for the most part to sports arenas, for beer sales.

Ongoing Efforts/ What to do?

Bottle bill states² have achieved much higher recycling rates of PET bottles than the rest of the US and are a preferred source of recycled PET due to the consistency and lack of contaminants in their supply. While bottle bill states consistently achieve 80% recycling rates, some argue that this is not the most cost-effective way to recycle. Instead, they argue for greater participation in voluntary efforts, increased education and programs such as APC's All-Bottle

¹USEPA draft 2001 MSW Characterization Report

²There are currently 10 bottle bill states: CA, CT, DE, IA, MI, ME, NH, NY, OR and VT; No new bottle bills have been enacted since the early 1980s.

Program to encourage greater participation in existing curbside recycling programs. NAPCOR has also urged for greater education, has implemented several voluntary recycling programs and has a technical assistance program to assist municipalities with their PET recycling programs. The Association of Postconsumer Plastic Recyclers (APR) has instituted a “Champions for Change” program to reward companies that make significant efforts to design their products so that they are easier to recycle, and APR has also developed design for recycling guidelines for plastic bottle designers.

One effort that has garnered significant media attention and has succeeded in focusing attention on this issue is the Grass Roots Recycling Network’s (GRRN) campaign to get Coca Cola to use recycled content in their bottles and to recycle more. Their efforts have now broadened to Pepsi. They have succeeded in getting shareholders to sponsor resolutions calling for increased recycling over the protests of the companies. It appears that, at least in the case of Coca-Cola, this pressure has yielded some significant concessions. The Coca-Cola company has announced a number of initiatives to significantly increase the recycled content in their bottles, thus causing a meaningful increase in demand for Recycled PET.

Another effort underway is led by an offshoot of GRRN, a group called Businesses and Environmentalists Allied for Recycling (BEAR). The alliance has received a \$150,000 grant from the Turner Foundation and has been working to try to develop projects with Coca-Cola and others to find solutions that would achieve the same level of recycling as bottle bills. Dalton-based Beaulieu of America Inc., the third-largest carpet maker, has been a significant player in these activities as the company is struggling to find sources for the 80 million pounds of PET plastic it uses each year. One of the issues for Beaulieu is that if Coca-Cola starts using large amounts of recycled PET, it will make it even more difficult for them to source their feedstock – so they are extremely interested in efforts to increase supply of RPET.

Finally, the Plastic Redesign Project is another group that has been working on educating state and local government agencies on issues related to new plastic container designs and the potential economic impacts these designs could have. The project has been funded by USEPA and several states and has produced several reports on different issues relevant to PET container recycling.

New Challenges Looming:

- More single serve PET containers (smaller sizes that typically do not end up in municipal recycling blue box systems).
- Beer, processed foods & juice containers (new types of containers)
 - New barrier layers
 - New colors
- Continued Exports of RPET (less available supply of RPET to feed growing demand).

Export markets have helped municipalities in some areas, as the West Coast must export much of its supplies due to lack of sufficient local markets.

- Continued cyclical marketplace (prices swings can be very difficult for municipalities)

Solutions?

- Education programs (APC, APR, NAPCOR, State and Local Agencies)
- Product Stewardship (BEAR, Minnesota)
- Industry lead initiatives?
- Bans on problem containers? (Los Angeles beer bottle ordinance)
- Improved efficiency in municipal collection programs?
- Others?

May 31st Session Outline:

Topic/Time	Desired Outcome
1) Introduction/Overview of Agenda (10 min)	Discuss issue paper and agree upon agenda
2) Overview of Market Trends (20 min)	Discuss new trends in PET Packaging
3) Impacts of New Product Designs (20 min)	Discuss beer bottle issue, fruit juice etc
4) Relevant International Actions (10 min)	Discuss Canadian, Australian, and European initiatives in PET recycling
5) Initiatives/Programs to Encourage Increased Recycling (40 min)	Discuss state and non-profit efforts and encourage collaboration
6) Discussion Wrap-up (20 min)	Recap discussions and highlight any potential emergent activities

Session Results from May 31st JTR Roundtable

The group discussed how the plastics recovery “crisis” is actually a result of successful market development efforts. While plastics recovery has remained rather stable over time at approximately 770 million pounds per year, demand and end use capacity have increased, leading to supply shortages. The group agreed that states should continue working with the industry to provide incentives to increase supply.

As market share for plastics increases, fewer aluminum containers will be produced and recycled. This may have a profound effect on local program economics, since communities receive significant resources from recovered aluminum.

The group discussed why the paper and glass industry are not taking a more aggressive approach to increasing recovery. Some noted that states should be working with these industries, as well. Others countered that it is more effective to take advantage of the current momentum with plastics; if successful, it might lead to similar efforts with other industries.

Opportunities for States

- Work with trade associations, industry, and other states to increase plastics recovery.
- Seize the current window of opportunity to achieve improvements in plastics recycling.
- Potential to participate in NAPCOR’s car wash plastic collection effort.
- Involve industry in future discussions (e.g., future Roundtables) so that continuity is maintained from meeting to meeting.
- Facilitate “cross-fertilization” across different commodities since each can learn from each other’s experiences. Because of its broad scope, JTR provides an ideal forum for different commodity groups to come together to plan for the future.

Ongoing Activities discussed at May PET Roundtable:

American Plastics Council (APC)	Has initiated a voluntary “All-Bottle” program to promote the collection of all plastic bottles for recycling. It has proven to raise recycling rates, but can confuse the general public who is used to only recycling #1 and #2 plastics. (See website link below in “resources”)
Association of Post-Consumer Plastics Recyclers (APR)	Working with the plastics industry and reclaimers to promote design for recycling for plastic containers. In particular, APR is working to educate manufacturers about the problems associated with recycling new bottle types, such as the new plastic beer bottles. Initiated “Champions for Change” program to recognize companies for their leadership in the area of plastics recycling. (Website link below in “resources”)

National Association of PET Container Resources (NAPCOR)	Working to educate municipalities about the opportunities for PET recovery, including innovative grant projects with several states. Also, working with municipalities to recycle single-serve plastics. (Website link below in “resources”)
Plastic Redesign Project	Has developed working papers on win-win solutions for recycling recovered plastic bottles. Work in conjunction with APC, APR, and numerous federal and state agencies to represent the interests of local municipalities. Provide information on technical issues such as the economic impact of amber beer bottles on recycling programs. (Website link below in “resources”)
Grassroots Recycling Network	Spearheading a grassroots campaign to encourage the Coca-Cola company to use recovered content plastic in its bottles. In response, Coca-Cola has made recent commitments to boost the recycled content of its plastic bottles. (Website link below in “resources”)
BEAR	<p>A new organization working to increase recovery of beverage containers, with an initial focus on PET containers. Spearheaded by businesses and non-profits initially, BEAR now includes government agencies. Recently hired R.W. Beck and the Tellus Institute to compile available research on beverage container recovery as an initial step to research the relevant issues and how to increase PET plastics recovery. Will then work towards a negotiated agreement with industry. There are opportunities for states to participate, if interested.</p> <p>Participants include GRRN, the Container Recycling Institute, WasteNot Georgia, Beaulieu of America (a large carpet manufacturer), TOMRA (representing collection programs), and several plastics reclaimers. (Website link below in “resources”)</p>
California	<p>In 1992, enacted a rigid plastic packaging container law that requires a 25 percent diversion rate. If not met, companies must use 25 percent recovered material in their rigid plastic products.</p> <p>In 1999, expanded a bottle bill deposit law to cover all beverage containers. As a result, in 2000, the PET recycling rate in California was 40 percent.</p>
South Carolina	Driven by shortages in supply of recovered PET due to competition between the carpet industry and other recyclers, South Carolina recently conducted a study examining the state’s annual data on recyclables collected. Included data on pounds per capita recovered and generated. Data was used to help prioritize recovery opportunities resulting in a targeted, focused effort that increased PET recycling efforts in some areas of the state. Included industry-supported promotional campaigns for plastics recycling on a voluntary basis.
Nebraska State Recycling Association	Received a grant from NAPCOR to increase the amount of PET recycled in Nebraska. Will survey community programs and processors to determine their willingness to increase recovery, possibly through milk runs (where haulers fill up their trucks through a collection route through multiple locations) and cooperative marketing. Nebraska hopes to extend its PET recycling efforts beyond this project.

Pennsylvania	Public Recycling Officials of Pennsylvania (PROP) has led an effort with industry to increase plastics recovery in the state. Efforts have included promotions with minor league baseball teams, placing a NAPCOR container at every garbage can, and give-aways such as recycled-content seat covers. Pennsylvania is currently looking at opportunities with its major league baseball teams. In addition, Philadelphia is revisiting its plastics collection program.
Ohio	Funded research into curbside collection of PET and how to increase recovery. Offer a market development grant to fund plastics sorting equipment. Working with NAPCOR to train community recycling coordinators in plastics recovery and will target special events to increase supply. Working with Phoenix Technology (a plastics processing company) and Southeastern Container (a manufacturer) to boost supply and reduce processing costs.
Vermont	Produced a study on plastics recovery.
Massachusetts	As a bottle bill state, recovers plastic containers through vending machines where plastics are ground and colors are mixed. This creates the potential for contamination problems in the plastics processing phase.
Oregon	Offers a plastic tax credit program for up to \$250,000 for plastics manufacturers. Funding can be used for machinery and equipment, land acquisition, and construction and renovation of facilities. The amount of the tax credit is 50 percent, taken at a rate of 10 percent per year.
Minnesota	Seeking collaborative solutions with industry using the product stewardship model.

Resources:

American Plastics Council (APC) - latest plastic container recycling studies, good plastics links.

www.plasticsresources.com

Association of Post Consumer Plastics Recyclers (APR) - Champions for Change program, plastic design guidelines.

www.plasticsrecycling.org

Businesses and Environmentalists Allied for Recycling (BEAR) - brief information on the formation of this new alliance.

www.globalgreen.org/programs/B.E.A.R.html

(information also available on GRRN's website—see below)

Container Recycling Institute (CRI) - information on bottle bills and good recycling rates analysis.

www.container-recycling.org

Grass Roots Recycling Network (GRRN) - information on Coke and Pepsi campaign

www.grrn.org

National Association of PET Container Resources (NAPCOR) - plastic container recycling studies, resources for municipalities.

www.napcor.com/index1.html

Plastic Redesign Project - a coalition of state and local government agencies and associations dedicated to strengthening the economics of local plastics recycling programs through voluntary public-private partnerships. Project site contains information on joining the project and includes design for recycling guidelines, pigmented milk jug and plastic bottle studies. Look for a report analyzing the impact of barrier and amber tinted PET bottles to be added to the site soon.

www.plasticredesign.org